

## CLAIMS

The invention claimed is:

1. A signaling network switch comprising:  
a network interface for coupling to a network; and  
a processor coupled with the network interface, wherein the processor is adapted to  
establish a first connection through a network;  
establish a second connection;  
receive audio content through the second connection;  
transmit through the first connection data packets that contain an encoded form of the audio content;  
analyze the audio content; and  
if a periodic signal is detected in the audio content, transmit through the first connection a warning signal.
2. The signaling network switch of claim 1, wherein analyzing the audio content is performed by looking ahead.
3. The signaling network switch of claim 1, wherein the periodic signal has a double periodicity.
4. The signaling network switch of claim 1, wherein the warning signal is in-band.
5. The signaling network switch of claim 1, wherein the warning signal is out of band.
6. The signaling network switch of claim 5, wherein the warning signal is a named signaling event.
7. The signaling network switch of claim 1, the processor is further adapted to:  
determine an ending of the periodic signal; and

transmit a clear signal corresponding to the ending.

- 8 The signaling network switch of claim 1, the processor is further adapted to:  
determine a duration of the periodic signal; and  
5 encode the duration in the warning signal.

9. A signaling network call manager comprising:  
a network interface for coupling to a network; and  
a processor coupled with the network interface, wherein the processor is

10 adapted to  
establish a first network call manager connection with a first device;  
establish a second network call manager connection with a second device;  
assist the first device establish a communication connection with the second  
device through a packet network;

15 generate one of a first periodic signal and an instruction for a second periodic  
signal to be played by one of the first and second devices;  
encode a time duration of one of the first periodic signal and the second  
periodic signal in a warning signal;

transmit the warning signal through one of the first and second connections;

20 and

transmit the generated one of the first periodic signal and the instruction  
through one of the first and second connections.

10. The manager of claim 9, wherein  
25 one of the first and second periodic signals has a double periodicity.

11. The manager of claim 9, the processor is further adapted to:  
identify a type of one of the first periodic signal and the second periodic  
signal; and

30 determine the time duration from the identified type.

12. A telephone comprising:  
a detector for detecting a warning signal from data packets and outputting a  
disable signal in response to the warning signal;

a decoder for decoding the data packets to output an incoming audio signal;  
a speaker for playing out the incoming audio signal;  
a microphone for converting sound into an outgoing audio signal;  
an acoustic echo canceller for adapting to an aspect of the outgoing audio  
5 signal that is generated from converting sound played out by the speaker, and for  
generating a canceling signal in response to the aspect, wherein the acoustic echo  
canceller discontinues adapting responsive to the disable signal; and  
an encoder for encoding the outgoing audio signal and the canceling signal.

10 13. The telephone of claim 12, wherein  
the detector is adapted to detect a clear signal and discontinue the disable  
signal responsive to the clear signal.

14. The telephone of claim 12, wherein  
15 the detector is adapted to determine a time duration from the warning signal,  
and discontinue the disable signal after the time duration.

15. The telephone of claim 12, wherein  
the warning signal is in-band.

16. The telephone of claim 12, wherein  
the warning signal is out of band.

17. The telephone of claim 16, wherein  
25 the warning signal is a named signaling event.

18. A device comprising:  
means for establishing a first connection through a network and a second  
connection;  
30 means for receiving audio content through the second connection;  
means for transmitting through the first connection data packets that contain  
an encoded form of the audio content;  
means for analyzing the audio content; and

means for transmitting through the first connection a warning signal if a periodic signal is detected in the audio content.

19. The device of claim 18, wherein  
5 the means for analyzing the audio content is adapted to look ahead.

20. The device of claim 18, wherein  
the periodic signal has a double periodicity.

10 21. The device of claim 18, wherein  
the warning signal is in-band.

22. The device of claim 18, wherein  
the warning signal is out of band.

15 23. The device of claim 22, wherein  
the warning signal is a named signaling event.

24. The device of claim 18, further comprising:  
20 means for determining an ending of the periodic signal; and  
means for transmitting a clear signal corresponding to the ending.

25 25. The device of claim 18, further comprising:  
means for determining a duration of the periodic signal; and  
means for encoding the duration in the warning signal.

26. A device comprising:  
means for establishing a first network call manager connection with a first  
device;

30 means for establishing a second network call manager connection with a  
second device;

means for assisting the first device establish a communication connection with  
the second device through a packet switched network;



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31. The device of claim 29, further comprising:  
means for determining a time duration from the warning signal,  
wherein the detector means is adapted to discontinue the disable signal after  
5 the time duration.

32. An article comprising: a storage medium, said storage medium having stored  
thereon instructions, that, when executed by at least one device, result in:  
establishing a first connection through a network;  
10 establishing a second connection;  
receiving audio content through the second connection;  
transmitting through the first connection data packets that contain an encoded  
form of the audio content;  
analyzing the audio content; and  
15 if a periodic signal is detected in the audio content, transmitting through the  
first connection a warning signal.

33. The article of claim 32, wherein  
analyzing the audio content is performed by looking ahead.

34. The article of claim 32, wherein the instructions further result in:  
determining an ending of the periodic signal; and  
transmitting a clear signal corresponding to the ending.

35. The article of claim 32, wherein the instructions further result in:  
determining a duration of the periodic signal; and  
encoding the duration in the warning signal.

36. An article comprising: a storage medium, said storage medium having stored  
30 thereon instructions, that, when executed by at least one device, result in:  
establishing a first network call manager connection with a first device;  
establishing a second network call manager connection with a second device;  
assisting the first device establish a communication connection with the  
second device through a packet switched network;



then re-enabling the adaptive acoustic echo canceller.

42. The article of claim 39, wherein  
the warning signal is in-band.

43. The article of claim 39, wherein  
the warning signal is out of band.

44. The article of claim 43, wherein  
the warning signal is a named signaling event.

45. A method comprising:  
establishing a first connection through a network;  
establishing a second connection;  
receiving audio content through the second connection;  
transmitting through the first connection data packets that contain an encoded  
form of the audio content;  
analyzing the audio content; and  
if a periodic signal is detected in the audio content, transmitting through the  
first connection a warning signal.

46. The method of claim 45, wherein  
analyzing the audio content is performed by looking ahead.

47. The method of claim 45, wherein  
the periodic signal has a double periodicity.

48. The method of claim 45, wherein  
the warning signal is in-band.

49. The method of claim 45, wherein  
the warning signal is out of band.

50. The method of claim 49, wherein



the warning signal is a named signaling event.

51. The method of claim 45, further comprising:  
determining an ending of the periodic signal; and  
5 transmitting a clear signal corresponding to the ending.

52. The method of claim 45, further comprising:  
determining a duration of the periodic signal; and  
encoding the duration in the warning signal.

10 53. A method comprising:  
establishing a first network call manager connection with a first device;  
establishing a second network call manager connection with a second device;  
assisting the first device establish a communication connection with the  
15 second device through a packet switched network;  
generating one of a first periodic signal and an instruction for a second  
periodic signal to be played by one of the first and second devices;  
encoding a time duration of one of the first periodic signal and the second  
periodic signal in a warning signal;  
20 transmitting the warning signal through one of the first and second  
connections; and  
transmitting the generated one of the first periodic signal and the instruction  
through one of the first and second connections.

25 54. The method of claim 53, wherein  
one of the first and second periodic signals has a double periodicity.

55. The method of claim 53, further comprising:  
identifying a type of one of the first periodic signal and the second periodic  
30 signal; and  
determining the time duration from the identified type.

56. A method comprising:

establishing a communication connection with a device in a packet switched network;

receiving through the communication connection data packets that contain encoded audio;

5 receiving a warning signal that a periodic tone is encoded in the audio; and  
disabling an adaptive acoustic echo canceller in response to the warning signal.

57. The method of claim 56, further comprising:  
10 receiving a clear signal; and  
re-enabling the adaptive acoustic echo canceller in response to the clear signal.

58. The method of claim 56, further comprising:  
15 determining from the warning signal a time duration;  
waiting for the time duration; and  
then re-enabling the adaptive acoustic echo canceller.

59. The method of claim 56, wherein  
20 the periodic signal has a double periodicity.

60. The method of claim 56, wherein  
the warning signal is in-band.

61. The method of claim 56, wherein  
25 the warning signal is out of band.

62. The method of claim 61, wherein  
the warning signal is a named signaling event.

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